WHAT IS CLAIMED IS:

1. A rotation angle detecting device comprising:

a target including a magnetic member connected integrally rotatably with a rotary member; and

a plurality of magnetic sensors arranged to confront the magnetic member for outputting signals according to a rotation of the rotary member,

wherein the magnetic sensors respectively include semiconductor MR elements, and the semiconductor MR elements are formed over and integrally with a common cell of a semiconductor wafer.

2. The rotation angle detecting device according to claim 1, wherein the semiconductor MR elements are arranged over the common cell and at circumferential positions different from each other with respect to the rotary member.

3. The rotation angle detecting device according to claim 1, wherein the semiconductor MR elements are fixed integrally to a substrate through an adhesive layer.

4. A torque detecting device comprising:

a rotation member including a first rotary shaft and a second rotary shaft connected coaxially to the first rotary shaft;

rotation angle detecting devices provided to the first and second rotary shafts, respectively, each of the rotation angle detecting devices including,

a target including a magnetic member connected integrally rotatably with the corresponding first or second rotary shaft, and

a plurality of magnetic sensors arranged to confront the magnetic member for outputting signals according to a rotation of the corresponding first or second rotation shaft,

wherein the magnetic sensors respectively include semiconductor MR elements, and the semiconductor MR elements are formed over and integrally with a common cell of a semiconductor wafer; and

a torque detecting unit for detecting a torque to be applied to the rotary member based on signals outputted from the corresponding rotation angle detecting devices.

5. The torque detecting device according to claim 4, wherein all the magnetic sensors contained in the rotation angle detecting devices are constituted by using semiconductor MR elements formed integrally over a common cell of a semiconductor wafer.

6. A method of manufacturing a rotation angle detecting

device comprising the steps of:

integrally forming a plurality of semiconductor MR elements on a cell of a semiconductor wafer;

fixing the cell to a substrate; and

arranging the substrate with the cell so that the plurality of semiconductor MR elements confront a target including a magnetic member connected integrally rotatably with a rotary member.